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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,991	06/22/2006	Mitsuyoshi Kuwahata	062705	7383

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EXAMINER	
TESKIN, FRED M	
ART UNIT	**PAPER NUMBER**
1713	
MAIL DATE	**DELIVERY MODE**
06/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,991	KUWAHATA ET AL.	
	Examiner	Art Unit	
	Fred M. Teskin	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 20060622; 20061005.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The preliminary amendment of June 22, 2006 has been entered. Claims 1-6 are currently pending and under examination herein.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "soft" in claims 1-6 is a relative term that renders the claims indefinite. The term is not defined in the claims and the specification is not seen to provide a standard for ascertaining the requisite degree (of softness). The limiting significance of the term is therefore unclear.

Regarding claims 1 and 5, it is unclear how the term "type" is intended to affect the usual meaning of "vinyl chloride ... monomer"; i.e., what chemical and/or structural variants of vinyl chloride would qualify as a "monomer" in the context of the claimed invention. The addition of the word "type" to an otherwise definite expression like "vinyl chloride monomer" extends the scope of the expression so as to render it indefinite.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 03-016003 (JP '003)(all references thereto being to the corresponding English language translation furnished herewith).

The subject matter of the present invention is a soft vinyl chloride copolymer resin obtained by copolymerizing (A) a vinyl chloride type monomer and (B) a macromonomer having a polymer comprising an ethylenically unsaturated monomer containing a double bond in a main chain, wherein the ratio of (A)/(B) by weight is 50/50 to 80/20.

JP '003 discloses vinyl chloride series resin having improved flowability and obtained by copolymerizing vinyl chloride and a polystyrene macromonomer. As apparent from Eq. (1) (translation, fourth page), the polystyrene macromonomer comprises ethylenically unsaturated monomer (styrene residues) and contains a main chain double bond, residing in a methacrylate endgroup.

JP '003 differs from the present claims only in that in its specific embodiments, the vinyl chloride monomer and the macromonomer are copolymerized in proportions corresponding to (A)/(B) ratios outside the claimed range; e.g., 2,500 wt. parts of vinyl chloride monomer and 441 wt. parts of polystyrene macromonomer in Working Example 3, for a ratio of 5.67:1 (A)/(B). However, JP '003 broadly teaches mixing the vinyl chloride monomer and the polystyrene macromonomer in proportions expressed as weight percent ranges that substantially overlap the applicants' claimed weight ratio range, *viz.*, 50 ~ 99.5 wt. % and 50 ~ 0.5 wt. %, respectively (translation, sixth page); and it is there stated that when the vinyl chloride monomer falls below 50 wt. %, characteristics which are superior for the vinyl chloride resins cannot be obtained.

As such, those of ordinary skill would have been led to use weight ratios within the presently claimed range when undertaking the copolymerization of JP '003, and reasonably expect to obtain vinyl chloride resin of comparably superior characteristics. Indeed, selecting a narrow range from within a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply overlaps a disclosed range. In fact, where (as here) the claimed ranges are completely encompassed by the prior art, the conclusion is even more compelling than in cases of mere overlap. The normal desire of an artisan to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages. *See*, *In re Peterson,* 65 USPQ2d 1379, 1382 (Fed. Cir. 2003).

Claims 1, 2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 02-263810 (JP '810)(all references thereto being to the corresponding English language translation furnished herewith).

Vinyl chloride copolymer obtained by copolymerizing vinyl chloride monomer and a styrene macromonomer end-terminated with a methacrylate group is disclosed by JP '810; see page 15, bridging paragraph and pages 19-20, Table 1. In the Result section of Table 1, Example 5 describes a copolymer composition including the vinyl chloride monomer unit and the styrene macromonomer unit in proportions (wt. %) of 60 and 30, respectively. Since a 60/30 weight ratio represents a specific value within the range recited in claim 1 for the corresponding monomer and macromonomer, and since Example 5 otherwise meets the limitations of claims 1, 2 and 6, JP '810 is seen as anticipative of that claimed subject matter. The description in a reference of a single embodiment of broadly claimed subject matter constitutes a description of the invention for anticipation purposes. *In re Luckach*, 169 USPQ 795 (CCPA 1971).

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Skillicorn et al is cited as pertinent to vinyl chloride/polyacrylate copolymer dispersant produced by copolymerization of a terminal ethylenic group-containing polyalkylacrylate ester and vinyl chloride monomer (note col. 8, ll. 20+).

Claim 3 would be allowable on the present record, if amended or rewritten to overcome the rejection under 35 U.S.C. 112 set forth in this Office action and to include all the limitations of the base claim and any intervening claim.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMTeskin/06-15-07

FRED TESKIN
PRIMARY EX
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